

# **Sensitive Plant Species in Weed Management Areas on the Helena National Forest**

Final Report

Prepared for the:

**Helena National Forest**

by

**Drake Barton and Susan Crispin**

**Montana Natural Heritage Program**  
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Prepared for the  
Helena National Forest  
Helena, Montana

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by  
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## EXECUTIVE SUMMARY

The purpose of this work was to document occurrences of U.S. Forest Service (USFS) Sensitive Plant Species on the Helena National Forest for the development of a weed Environmental Impact Statement and to provide information for current weed treatment efforts on the Forest. A secondary objective was to gather additional distribution and habitat information on Sensitive plant species in the Helena National Forest. The sites surveyed include known occurrences of Sensitive plant species, as well as potentially suitable locations as predicted by habitat modeling conducted by the Montana Natural Heritage Program (MTNHP).

Habitat modeling for Sensitive Species identified 646 sites with potential habitat in or near areas targeted for weed treatment. Of these, we surveyed or sampled 435 potential habitat polygons and documented USFS Sensitive Species at 24 locations. Sixteen were newly documented, five previously known occurrences were revisited and new sub populations were added or existing population numbers were significantly expanded. Additionally, three sites were revisited and the populations were confirmed. These included seven occurrences of *Polygonum douglasii* spp. *austinae* (Austin's knotweed), fourteen occurrences of *Cirsium longistylum* (long-styled thistle), and three occurrences of *Phlox kelseyi* var. *missoulensis* (Missoula phlox). Two previously documented occurrences were sought but not relocated. We did not locate any *Grindelia howellii* (Howell's gumweed) on Helena National Forest lands. Two localities for *Botrychium paradoxum* (peculiar moonwort) were reported by USFS staff in 2001, one of which we revisited in 2002.

In addition to the USFS Sensitive species that were specifically targeted, we also identified new occurrences of *Draba densifolia* (dense-leaf draba), and *Astragalus convallarius* var. *convallarius* (lesser rushy milkvetch). Neither of these taxa is currently considered USFS Sensitive, however they are Montana Species of Concern, ranked S2 by MTNHP.

Many of these Sensitive Species are successional and are often found in disturbed habitats. *Polygonum douglasii* spp. *austinae* and *Cirsium longistylum* are often found along roadways, a vector for the spread of weeds. *Botrychium paradoxum* and *Astragalus convallarius* var. *convallarius* are found in rough fescue grasslands that are quickly being invaded by weeds such as spotted knapweed (*Centaurea maculosa*) and Dalmatian toadflax (*Linaria dalmatica*). When Sensitive Species are located in relatively weed free areas, monitoring these sites to catch any weed infestations early will help to preserve the quality of these habitats.

Weed treatments in areas with populations of Sensitive plants can be designed to reduce negative impacts to these species. Most important are avoiding overspray of herbicides and, when possible, spot spraying to specifically target weed species. Herbicide applications can also be timed to minimize damage to Sensitive plant populations. In some cases, care will be needed to correctly identify target weed species, especially since *Cirsium longistylum* can be easily mistaken for weedy thistles.

Weeds impact the quality of the habitat for Sensitive plant species, and effective weed treatment will be important for the long-term viability of Sensitive plant populations on National Forest lands.

## ACKNOWLEDGEMENTS

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